

Application No. 10/754,537
Amendment dated June 23, 2005
Response to Office Action dated March 23, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (currently amended) A photothermographic material comprising, on a support, an image forming layer containing a photosensitive silver halide, a non-photosensitive organic silver salt, a reducing agent and a binder, and a non-photosensitive layer, wherein:

the non-photosensitive layer contains a slipping agent which is a liquid at ~~a ordinary temperature~~ 25°C; and

a volatile rate of the slipping agent at 120°C for one hour is 0.5% by mass or less as measured by a thermo-balance.

2. (original) A photothermographic material according to claim 1, wherein the slipping agent is at least one selected from the group consisting of paraffin, isoparaffin, naphthene, fatty acid ester and silicone based oil.

3. (currently amended) A photothermographic material according to claim 2, wherein the slipping agent is at least one selected from the group consisting of liquid paraffin, a monovalent fatty acid ester of polyhydric alcohols and a polyvalent fatty acid ester of monohydric alcohols.

4. (original) A photothermographic material used in a heat development system having transportation rollers, the photothermographic material comprising, on a support, an image

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forming layer containing a photosensitive silver halide, a non-photosensitive organic silver salt, a reducing agent and a binder, and a non-photosensitive layer, wherein:

the non-photosensitive layer contains a slipping agent; and
a permeating rate of the slipping agent to the transportation rollers, when the transportation rollers are immersed in the slipping agent at 120°C for 2 hours, is 6% by mass or less.

5. (original) A photothermographic material according to claim 4, wherein the slipping agent contains at least one selected from the group consisting of paraffin, isoparaffin, naphthene, fatty acid ester and silicone based oil.

6. (original) A photothermographic material according to claim 5, wherein the paraffin is liquid paraffin.

7. (currently amended) A photothermographic material according to claim 4, wherein the slipping agent is a liquid at ordinary temperature 25°C.

8. (original) A photothermographic material according to claim 4, wherein the melting point of the slipping agent is from 40°C or higher to 80°C or lower.

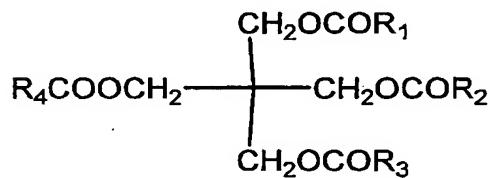
9. (original) A photothermographic material according to claim 4, wherein a surface material of the roller contains at least one of rubber and resin.

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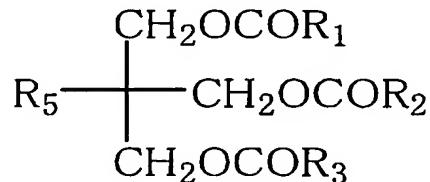
10. (original) A photothermographic material according to claim 4, wherein a surface material of the roller contains at least one of silicone rubber and fluoro rubber.

11. (original) A photothermographic material according to claim 1, wherein the slipping agent is at least one selected from the group consisting of compounds represented by the following general formulae (S-I), (S-II), and (S-III):

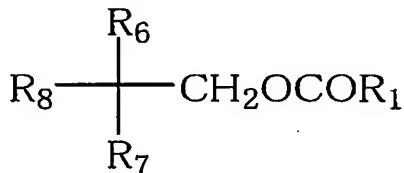
General formula (S-I)



General formula (S-II)



General formula (S-III)

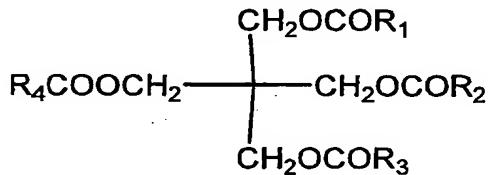


wherein R₁, R₂, and R₃ each independently represent an alkyl group, alkenyl group, alkynyl group, cycloalkyl group or aryl group having 6 to 30 carbon atoms; R₅ represents an alkyl group having 1 to 30 carbon atoms, and R₆, R₇, and R₈ each independently represent a methylol group or an alkyl group having 1 to 30 carbon atoms.

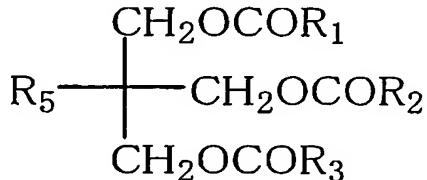
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12. (original) A photothermographic material according to claim 4, wherein the slipping agent is at least one selected from the group consisting of compounds represented by the following general formulae (S-I), (S-II), and (S-III):

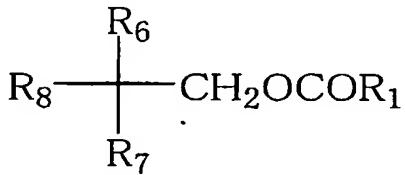
General formula (S-I)



General formula (S-II)



General formula (S-III)



wherein R₁, R₂, and R₃ each independently represent an alkyl group, alkenyl group, alkynyl group, cycloalkyl group or aryl group having 6 to 30 carbon atoms; R₅ represents an alkyl group having 1 to 30 carbon atoms, and R₆, R₇, and R₈ each independently represent a methylol group or an alkyl group having 1 to 30 carbon atoms.

13. (original) A photothermographic material according to

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claim 1, further containing a fluoro compound having a fluoro alkyl group having at least 2 carbon atoms and no more than 13 fluorine atoms.

14. (original) A photothermographic material according to claim 1, further containing a fluoro compound having a fluoro alkyl group having at least 2 carbon atoms and no more than 12 fluorine atoms.

15. (original) A photothermographic material according to claim 14, wherein the fluoro compound has a fluoro alkyl group represented by the following general formula (A):

General formula (A)

-Rc-Re-W

wherein Rc represents an alkylene group having 1 to 4 carbon atoms; Re represents a perfluoro alkylene group having 2 to 6 carbon atoms; and W represents a hydrogen atom, fluorine atom or alkyl group.

16. (original) A photothermographic material according to claim 15, wherein the fluoro compound has two or more fluoro alkyl groups represented by general formula (A) in one molecule.

17. (original) A photothermographic material according to claim 1, wherein the non-photosensitive layer is an outermost layer.

18. (original) A method of forming images using the photothermographic material according to claim 1, wherein the photothermographic material is heat developed under at least one

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condition selected from the group consisting of the following conditions (1) and (2):

- (1) at a temperature from 100°C to 140°C for 18 sec or less,
- (2) at a linear developing speed of 23 mm/s or higher.

19. (original) A method of forming images using the photothermographic material according to claim 4, wherein the photothermographic material is heat developed under at least one condition selected from the group consisting of the following conditions (1) and (2):

- (1) at a temperature from 100°C to 140°C for 18 sec or less,
- (2) at a linear developing speed of 23 mm/s or higher.